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FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			LU, KUEN S	
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Please find below and/or attached an Office communication concerning this application or proceeding.

1

Office Action Summary	Application No. 09/965,031	Applicant(s) PACHET ET AL.	
	Examiner Kuen S. Lu	Art Unit 2167	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 9-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendments

1. The Action is responsive to the Applicant's Amendments, filed on August 1, 2005. Noted is the amendments made to the claims 1, 19, 21-24 and 30-31. The amended claims were addressed accordingly in the Office Action for Final Rejection (hereafter "the Action") as shown next. Please note Claims 1-6 and 9-37 are pending.
2. As for the Applicant's Remarks on claim rejections, filed on August 1, 2005, has been fully considered by the Examiner, please see discussion in the section ***Response to Arguments***, following the Action. Please note the Examiner has maintained the same grounds as set forth in the Office Action for non-Final Rejection, dated April 7, 2005, for claims rejection in the Action.

Claim Objections

3. Claims 1, 19, 21-24 and 30-31 are objected to because of the following informalities: The claims do not explicitly specify a specific method or apparatus for implementation. The Examiner would suggest all claims starting with "An apparatus" and "A method" be amended to "A computer apparatus" and "A computer-implemented method", respectively. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention

Art Unit: 2167

was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 and 9-37 is rejected are rejected under 35 U.S.C. 103(a) as being unpatentable over Linden et al. (U.S. Patent 6,266,649, hereafter "Linden") in view of Sumita et al. (U.S. Patent 6,581,207, hereafter "Sumita").

As per claims 1, 22-24 and 30-31, Linden teaches the following:

"specifying a length of said sequence and at least one of said descriptors" (See col. 9, lines 34-37 and col. 15, lines 63-67 wherein Linden's similar items list consists of the N items and user can select specific category for the similar items is equivalent to Applicant's specifying a length of said sequence and at least one of said descriptors); and

"applying similarity relation techniques between said items of said sequence under construction, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with an a neighboring item in said sequence" (See Fig. 2 and col. 11, lines 4-56 wherein Linden's applying weighting values to similar items for scoring, generating and sorting a list, and further recommending the top scoring N items to users is equivalent to Applicant's applying similarity relation techniques between said items of said sequence under construction, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with an a neighboring item in said sequence).

Linden does not specifically teaches the similarity relation techniques are based on morphological affinity and further "with which said chosen item shall be associates so as to create a morphological continuity along said sequence".

However, Sumita teaches "with which said chosen item shall be associates so as to create a morphological continuity along said sequence" (See Fig. 6 and col. 6, lines 23-49 wherein Sumita's evaluating similarity between items by using morphemic analysis techniques on program name of the items is equivalent to Applicant's with which said chosen item shall be associates so as to create a morphological continuity along said sequence).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Sumita with Linden reference by applying morphemic analysis techniques to similar items for generating an item list of morphological continuity because both references are directed to filtering items and selecting similar items, including program names, to users, and the combined reference would have allowed the filtering system more accurately to select similar items or programs to users.

Sumita further teaches "producing said associated items as at least part of said generated sequence, said sequence thereby having a said morphological continuity" (See Fig. 6 and col. 6, lines 23-45 wherein Sumita's morphemic analysis was conducted on similar items to calculate the similarity value of a similar item against to those in the profile is equivalent to Applicant's producing said associated items as at least part of

said generated sequence, said sequence thereby having a said morphological continuity).

As per claim 2, the combined teaching of Linden and Sumita references further teaches "each of said items is represented by a series of constraint variables having a domain in the database" (See Linden: col. 7, lines 16-19 and col. 11, lines 27-32 wherein Linden's titles, types, group, category and rating are represented in the database and the factors utilized in the process of filtering is equivalent to Applicant's each of said items is represented by a series of constraint variables having a domain in the database).

As per claim 3, the combined teaching of Linden and Sumita references further teaches "similarity relation applying step comprises modeling each of said descriptors in a desired sequence as a constrained variable" (See Linden: Figs. 2, steps 82-88 and 5, steps 182-188 wherein Linden's similar items are retrieved from table, weighting values to the items based on different weighting variables, assigning scores to the items and sorting the items into a list is equivalent to Applicant's similarity relation applying step comprises modeling each of said descriptors in a desired sequence as a constrained variable).

As per claim 4, the combined teaching of Linden and Sumita references further teaches "similarity relation applying step comprises applying a global similarity relation

Art Unit: 2167

technique by combining individual similarity measures on all of said descriptors" (See Linden: col. 14, Table 2 and lines 44-57 wherein Linden's a global weight formula is utilized as a basis to calculate the similarity between similar items is equivalent to Applicant's similarity relation applying step comprises applying a global similarity relation technique by combining individual similarity measures on all of said descriptors).

As per claim 5, the combined teaching of Linden and Sumita references further teaches "similarity-relation applying step comprises providing mathematical similarity functions" (See Linden: col. 14, Table 2 and lines 44-57 wherein Linden's a global weight formula is utilized as a basis to calculate the similarity between similar items is equivalent to Applicant's similarity-relation applying step comprises providing mathematical similarity functions).

As per claim 6, the combined teaching of Linden and Sumita references further teaches "similarity-relation applying step comprises providing similarity relations defined by given thresholds" (See Sumita: Fig. 6 step D6 wherein Sumita's similarity value of a similar item is compared to a predetermined threshold is equivalent to Applicant's similarity-relation applying step comprises providing similarity relations defined by given thresholds).

As per claim 9, the combined teaching of Linden and Sumita references further teaches "descriptors are expressed in terms of descriptor/value pairs respectively, and each of said values for said descriptor is selected from descriptor/value lists" (See Linden: col. 8, lines 1-12 wherein Linden's popular titles are rated 1 to 5 in Bad/1, Not for me/2 to Love it/5 pairs is equivalent to Applicant's descriptors are expressed in terms of descriptor/value pairs respectively, and each of said values for said descriptor is selected from descriptor/value lists).

As per claim 10, the combined teaching of Linden and Sumita references further teaches "each of said descriptors is associated to a descriptor type" (See Linden: col. 8, lines 1-12 wherein Linden's popular titles are rated 1 to 5 in Bad/1, Not for me/2 to Love it/5 pairs is equivalent to Applicant's each of said descriptors is associated to a descriptor type).

As per claim 11, the combined teaching of Linden and Sumita references further teaches "descriptor type comprises at least one type selected from the group consisting of Integer-Type, Taxonomy Type and Discrete-Type" (See Linden: col. 8, lines 1-12 wherein Linden's popular titles are rated in integer and discrete value types, 1 to 5 in Bad/1, Not for me/2 to Love it/5 pairs is equivalent to Applicant's descriptor type comprises at least one type selected from the group consisting of Integer-Type, Taxonomy Type and Discrete-Type).

As per claim 12, the combined teaching of Linden and Sumita references further teaches "specifying further comprises specifying a first title and a last title of said items in said sequence" (See Linden: Fig. 6, wherein Linden's "The Other Side of Midnight" and "Skinny Legs and All" are the first and last titles, respectively is equivalent to Applicant's specifying further comprises specifying a first title and a last title of said items in said sequence).

As per claim 13, the combined teaching of Linden and Sumita references further teaches "specifying further comprises specifying a morphological style of said items in said sequence" (See Sumita: Fig. 6, step D2 and col. 6, lines 23-34 wherein Sumita's program names are subject to morphemic analysis is equivalent to Applicant's specifying further comprises specifying a morphological style of said items in said sequence).

As per claim 14, the combined teaching of Linden and Sumita references further teaches "database comprises musical pieces" (See Linden: Fig. 6, item New wherein Linden's music recommendations is equivalent to Applicant's database comprises musical pieces).

As per claim 15, the combined teaching of Linden and Sumita references further teaches "descriptors comprise titles, and said titles form a music program" (See Linden: Fig. 6 the combining display of book titles from book category and music

recommendations suggest the teaching of displaying music titles from a music program is equivalent to Applicant's descriptors comprise titles, and said titles form a music program).

As per claim 16, the combined teaching of Linden and Sumita references further teaches "a general-purpose computer and a monitor for display of the generated information" (See Linden: Fig. 1, elements 34s and 32, and col. 7, lines 20-48 wherein Linden's web server, database and user computers are utilized to implement a system for on-line-cart shopping is equivalent to Applicant's a general-purpose computer and a monitor for display of the generated information).

As per claim 17, the combined teaching of Linden and Sumita references further teaches "computer program product adapted to carry out the method of claim 1, when loaded into a general purpose computer" " (See Linden: Fig. 1, elements 34s and 32, and col. 7, lines 20-48 wherein Linden's web server, database and user computers are utilized to implement a system for on-line-cart shopping is equivalent to Applicant's computer program product adapted to carry out the method of claim 1, when loaded into a general purpose computer).

As per claim 18, the combined teaching of Linden and Sumita references further teaches "the similarity relation is applied to obtain two contiguous items of the sequence" (See Linden: Fig. 2 and col. 11, lines 4-56 wherein Linden's applying

weighting values to each similar items for scoring, generating and sorting a list, and further recommending the top scoring N items to users is equivalent to Applicant's the similarity relation is applied to obtain two contiguous items of the sequence).

As per claim 19, Linden teaches "introducing a global continuity constraint" (See col. 7, lines 16-19 and col. 11, lines 27-32 wherein Linden's titles, types, group, category and rating are represented in the database and the factors utilized in the process of filtering is equivalent to Applicant's introducing a global continuity constraint).

Linden does not specifically teaches allowing the constraint "to compute a morphing between items of said sequence", although the constraints are being applied to calculate similarity for similar items as previously described in claims 4-6 rejections.

However, Sumita teaches evaluating similarity between items by using morphemic analysis techniques on "program name" of the items (See Fig. 6 and col. 5, lines 23-49).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Sumita with Linden reference by applying morphemic analysis techniques to similar items for generating an item list of morphological continuity because both references are directed to filtering items and selecting similar items, including program names, to users, and the combined reference would have allowed the filtering system more accurately to select similar items or programs to users.

The combined teaching of Linden and Sumita references further teaches the following:

Art Unit: 2167

"taking as input partial information about arbitrary items in said sequence to be produced" (See Linden: Fig. 6 wherein Linden's category is input produce the list of similar items);

"applying similarity relation techniques between said items of said sequence under construction, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with a neighboring item of said sequence" (See Linden: Fig. 2 and col. 11, lines 4-56 wherein Linden's applying weighting values to similar items for scoring, generating and sorting a list, and further recommending the top scoring N items to users is equivalent to Applicant's applying similarity relation techniques between said items appearing in said sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with an a neighboring item in said sequence is equivalent to Applicant's applying similarity relation techniques between said items appearing in said sequence, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with a neighboring item of said sequence); and

"with which said chosen item shall be associated. so as to create a morphological continuity along said sequence" (See Sumita: Fig. 6 and col. 6, lines 23-49 wherein Sumita's evaluating similarity between items by using morphemic analysis techniques on program name of the items is equivalent to Applicant's with which said chosen item shall be associated. so as to create a morphological continuity along said sequence).

As per claim 20, the combined teaching of Linden and Sumita references further teaches "a general-purpose computer and a monitor for display of the generated information" (See Linden: Fig. 1, elements 34s and 32, and col. 7, lines 20-48 wherein Linden's web server, database and user computers are utilized to implement a system for on-line-cart shopping is equivalent to Applicant's a general-purpose computer and a monitor for display of the generated information).

As per claim 21, Linden teaches the following:

"specifying a length of said sequence and at least one of said descriptors" (See col. 9, lines 34-37 and col. 15, lines 63-67 wherein Linden's similar items list consists of the N items and user can select specific category for the similar items is equivalent to Applicant's specifying a length of said sequence and at least one of said descriptors);

and

"applying similarity relation techniques between said items of said sequence under construction, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation with a neighboring item of said sequence with which said chosen item shall be associated" (See Fig. 2 and col. 11, lines 4-56 wherein Linden's applying weighting values to similar items for scoring, generating and sorting a list, and further recommending the top scoring N items to users is equivalent to Applicant's applying similarity relation techniques between said items of said sequence under construction, in which, for at least one item to appear in the sequence, said item is chosen from said database on the basis of a similarity relation

with a neighboring item of said sequence with which said chosen item shall be associated).

Linden does not specifically teaches "so as to create a morphological continuity along said sequence".

However, Sumita teaches "so as to create a morphological continuity along said sequence" (See Fig. 6 and col. 6, lines 23-49 wherein Sumita's evaluating similarity between items by using morphemic analysis techniques on program name of the items is equivalent to Applicant's so as to create a morphological continuity along said sequence).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Sumita with Linden reference by applying morphemic analysis techniques to similar items for generating an item list of morphological continuity because both references are directed to filtering items and selecting similar items; including program names, to users, and the combined reference would have allowed the filtering system more accurately to select similar items or programs to users.

The combined teaching of Linden and Sumita references further teaches "producing said associated items as at least part of said generated sequence, said sequence thereby having a said morphological continuity, wherein said descriptors are expressed in terms of descriptor/value pairs respectively, and each of said values for said descriptor is selected from descriptor/value lists" (See Linden: Fig. 6 and col. 8, lines 1-12 wherein Linden's popular titles are rated 1 to 5 in Bad/1, Not for me/2 to Love it/5

pairs and further, the selected similar items list is displayed is equivalent to Applicant's producing said associated items as at least part of said generated sequence, said sequence thereby having a said morphological continuity, wherein said descriptors are expressed in terms of descriptor/value pairs respectively, and each of said values for said descriptor is selected from descriptor/value lists).

As per claims 25-29, the combined teaching of Linden and Sumita references further teaches "the items are music titles" (See Linden: Fig. 6 the combining display of book titles from book category and music recommendations suggest the teaching of the items are music titles when music program is selected is equivalent to Applicant's the items are music titles).

As per claims 32-35, the combined teaching of Linden and Sumita references further teaches "morphological continuity is a morphing process along the items of said sequence" (See Sumita: Fig. 6 and col. 6, lines 23-45 wherein Sumita's morphemic analysis was conducted on similar items to calculate the similarity value of a similar item against to those in the profile is equivalent to Applicant's morphological continuity is a morphing process along the items of said sequence).

As per claim 36, the combined teaching of Linden and Sumita references further teaches "sequence-generating step comprises transforming said at least one of said values into unary constraints in terms of constraint satisfaction programming

techniques” (See Sumita: col. 14, Table 2 and line 64 – col. 15, line 4 wherein Linden’s rating values 1, 2, ...5 are unary operated in the weight formula is equivalent to Applicant’s sequence-generating step comprises transforming said at least one of said values into unary constraints in terms of constraint satisfaction programming techniques).

As per claim 37, the combined teaching of Linden and Sumita references teaches “sequence-generating step further comprises subjecting said unary constraints to a processing of variables domain reduction” (See Linden: Fig. 2 wherein Linden’s the weighting step is an option step is equivalent to Applicant’s sequence-generating step further comprises subjecting said unary constraints to a processing of variables domain reduction).

Response to Arguments

6. The Applicant’s arguments filed on August 1, 2005 have been considered but they are not persuasive. For the Examiner’s responses, please see discussion below:

a). At Pages 11-12, concerning claims 1-6 and 9-37, the Applicant argued that the Linden reference failed to teach producing sequences of selected items.

As to the above item a), the Examiner respectfully submits that the Linden reference teaches weighting similar items by a weighting value and the weighted items are sorted in according to the scores (See col. 11, lines 16-32). Based on the above, the Examiner respectfully submit that the Linden reference does teach producing sequences of selected items.

Art Unit: 2167

b). At Pages 11-12, concerning claims 1-6 and 9-37, the Applicant argued that the Linden reference failed to teach constructing a sequence using a similarity relation between an item appear in the sequence and a neighboring item in the same sequence.

As to the above item **b)**, the Examiner respectfully submits that the Linden reference teaches using profile to include item ratings as a basis for selecting similar items. The Examiner recognizes that the profile may though also include items currently or previously purchased, however, including an item and its rating information in the profile for serving as a basis of similarity comparison clearly suggests that the preferred item is not specifically excluded from the selected item list (See col. 7, lines 24-33).

c). At Pages 12-13, concerning claims 1-6 and 9-37, the Applicant argued that the Linden, Sumita or their combined teaching failed to teach the concept of morphological continuity.

As to the above item **c)**, the Examiner respectfully submits that the Sumita reference teaches morphological analysis as a comparison tool and describes it as an already known technique. (See col. 6, lines 29-33). Please note the combination of Linden reference's teaching on weighting and sorting similar items by a weighting value and Sumita teaching of morphological analysis and it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Sumita with Linden reference by applying morphemic analysis techniques to similar items for generating an item list of morphological continuity because both references are directed to filtering items and selecting similar items,

including program names, to users, and the combined reference would have allowed the filtering system more accurately to select similar items or programs to users.

7. The prior art made of record

- A. U.S. Patent 6,266,649
- B. U.S. Patent 6,581,207

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- C. U.S. Publication 2002/0082901
- D. U.S. Patent 5,616,876
- E. U.S. Patent 5,969,283
- F. U.S. Patent 6,678,680
- G. U.S. Patent 6,728,706
- H. U.S. Publication 2003/0164844

Conclusions

10. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

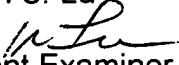
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S. Lu whose telephone number is 571-272-4114. The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean R. Homere, Esq. can be reached on (571) 272-3780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 09/965,031
Art Unit: 2167


Page 19

Kuen S. Lu

Patent Examiner

October 15, 2005

Jean R. Homere, Esq.
Supervisory Patent Examiner

October 15, 2005


JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100